

DISPENSING DEVICE, DISPENSING METHOD AND METHOD OF  
DETECTING DEFECTIVE DISCHARGE OF SOLUTION CONTAINING  
BIOLOGICAL SAMPLE

ABSTRACT OF THE DISCLOSURE

Proposed is dispensing technology capable of reliably spotting a biological sample on a solid phase. A head chip (12) applies a voltage pulse between a diaphragm and separate electrodes based on a drive control signal output from a head driver IC (313), and discharges a solution containing protein filled in a pressurized chamber as a result of the elastic deformation of the diaphragm. A drive pulse generation circuit (307) generates a drive voltage pulse and supplies this to the head chip (12) in order to discharge a solution containing protein from the head chip (12). The drive current detection circuit (308) detects a drive current flowing between the diaphragm and separate electrodes. Since the waveform of the detected drive current and the peak current value and so on differ in the case where the discharge status is normal and in the case where it is abnormal, a defective discharge can be discriminated by detecting such change. A high quality protein chip can be prepared by spotting a solution containing protein on a substrate upon employing a discharge mechanism where the discharge status is favorable.